The State of New Hampshire

DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

July 10, 2008

Thomas S. Burack, Chairman
New Hampshire Site Evaluation Committee
c/o New Hampshire Department of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

RE: Status Report for Tennessee Gas Pipeline Company – Concord Lateral Expansion Project, SEC Docket No. 2008-02

Dear Chairman Burack:

In accordance with RSA 162-H:6 V, the New Hampshire Department of Environmental Services, Air Resources Division (DES) is required to provide the New Hampshire Site Evaluation Committee (NHSEC) with a progress report on the status of the Tennessee Gas Pipeline, Concord Lateral Expansion Project (Tennessee Gas Pipeline) application as it pertains to air emissions.

As required by federal and state air regulations, DES has prepared the attached draft Temporary Permit for Tennessee Gas Pipeline. The draft Temporary Permit outlines the proposed permit conditions and comprises the progress report.

Consistent with federal and state procedural requirements, DES will provide an opportunity for public review and comment on the draft Temporary Permit. As such, pursuant to the New Hampshire Code of Administrative Rules, Env-A 621 *Public Notice and Hearing Procedures: Temporary Permits and Permits to Operate*, DES published a Notice of Permit Review (public notice) on **July 10, 2008**. DES will accept written comments and requests for a public hearing on the draft Temporary Permit until **August 11, 2008**.

A copy of this letter, the draft Temporary Permit, and the public notice will be forwarded to each NHSEC member and the applicant, as DES is not aware of a current service list for this docket. If you have any questions on this matter, please contact me at (603) 271-2630 or via e-mail at gary.milbury@des.nh.gov.

Sincerely,

Gary Milbury Jr.

Gary Milbury, Jr.
New Construction/Planning Manager
Air Resources Division

Attachment: Draft Temporary Permit TP-B-0544 and Public Notice

Cc: NHSEC Members
Mr. William B. Cope – Tennessee Gas Pipeline
Ms. Trinh Tran – Eastern Pipelines Environmental
Ms. Tricia Beazley – Tetra Tech EC, Inc.

State of New Hampshire
Department of Environmental Services
Air Resources Division

Temporary Permit

Permit No: TP-B-0544
Date Issued: XX-XX-XXXX
Draft: **7/2/2008**

This certifies that:

Tennessee Gas Pipeline Company
1001 Louisiana Street
Houston, Texas 77002

has been granted a Temporary Permit for:

One Compressor Turbine and One Emergency Generator

at the following Facility and location:

Concord Expansion Compressor Station
Mammoth Road
Pelham, New Hampshire 03076

Facility ID No: **3301191266**
Application No: **08-0023**, received January 31, 2008 – Temporary Permit

which includes devices that emit air pollutants into the ambient air as set forth in the permit application referenced above which was filed with the New Hampshire Department of Environmental Services, Air Resources Division (Division) in accordance with RSA 125-C of the New Hampshire Laws. Request for permit renewal is due to the Division at least 90 days prior to expiration of this permit and must be accompanied by the appropriate permit application forms.

This permit is valid upon issuance and expires on **XX-XX-XXXX**.

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Director
Air Resources Division

Abbreviations and Acronyms

AAL	Ambient Air Limit
acf	actual cubic foot
ags	above ground surface
ASTM	American Society of Testing and Materials
Btu	British thermal units
CAS	Chemical Abstracts Service
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DER	Discrete Emission Reduction
DES	New Hampshire Department of Environmental Services
Env-A	New Hampshire Code of Administrative Rules – Air Resources Division
ERC	Emission Reduction Credit
ft	foot or feet
ft3	cubic feet
gal	gallon
HAP	Hazardous Air Pollutant
hp	horsepower
hr	hour
kW	kilowatt
lb	pound
LPG	Liquified Petroleum Gas
MM	million
MSDS	Material Safety Data Sheet
MW	megawatt
NAAQS	National Ambient Air Quality Standard
NG	Natural Gas
NOx	Oxides of Nitrogen
NSPS	New Source Performance Standard
PM10	Particulate Matter < 10 microns
ppm	parts per million
ppmdv	parts per million dry volume
psi	pounds per square inch
RACT	Reasonably Available Control Technology
RSA	Revised Statutes Annotated
RTAP	Regulated Toxic Air Pollutant
scf	standard cubic foot
SO2	Sulfur Dioxide
TSP	Total Suspended Particulate
tpy	tons per consecutive 12-month period
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

I. Facility Description

The purpose of the Facility is to maintain pressure in the natural gas pipeline, through the use of a centrifugal compressor driven by a natural gas-fired turbine. Compressor Station 270B1 is part of the Concord Expansion Project to support growth needs in NH.

II. Emission Unit Identification

This permit covers the devices identified in Table 1:

Table 1 - Emission Unit Identification

Emission Unit ID	Device Identification	Manufacturer Model Number Serial Number	Installation Date	Maximum Design Capacity and Fuel Type(s)[1]
EU01	Compressor Turbine #1	Solar Centaur 50-6200LS TBD	2008	58.4 MMBtu/hr Natural gas – equivalent to 56,000 scf/hr @ 40 degrees Fahrenheit.
EU02	Emergency Generator	TBD TBD TBD	2008	4.68 MMBtu/hr Natural gas – equivalent to 4,489 scf/hr @ 40 degrees Fahrenheit.

III. Stack Criteria

A. The following devices at the Facility shall have an exhaust stack that discharges vertically, without obstruction, and meet the criteria in Table 2:

Table 2 - Stack Criteria

Stack Number	Emission Unit or Pollution Control Equipment ID	Minimum Height (feet above ground surface)	Maximum Exit Diameter (feet)
1	EU01	55	6

B. Stack criteria described in Table 2 may be changed without prior approval from the Division provided that:

1. An air quality impact analysis is performed either by the Facility or the Division (if requested by the Facility in writing) in accordance with Env-A 606, *Air Pollution Dispersion Modeling Impact Analysis Requirements*, and the "Guidance and Procedure for Performing Air Quality Impact Modeling in New Hampshire," and
2. The analysis demonstrates that emissions from the modified stack will continue to comply with all applicable emission limitations and ambient air limits.

C. All air modeling data and analyses shall be kept on file at the Facility for review by the Division upon request.

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[1] The hourly fuel rates presented in Table 1 are set assuming a high heating value (HHV) of 1,042.5 Btu/scf for natural gas.

IV. Operating and Emission Limitations

The Owner or Operator shall be subject to the operating and emission limitations identified in Table 3:

Table 3 - Operating and Emission Limitations

Item #	Requirement[2]	Applicable Emission Unit	Regulatory Basis
1	*Standards of Performance for Stationary Combustion Turbines* The compressor turbine shall comply with the following emissions limitations: a. NOx concentration not to exceed 25 ppmdv corrected to 15 percent O_2.	EU01	40 CFR 60.4320, Table 1 (Subpart KKKK)
2	*Emergency Generator* The emergency generator shall comply with the following emissions limitations: a. NOx concentration not to exceed 160 ppmdv corrected to 15 percent O_2. b. CO concentration not to exceed 540 ppmdv corrected to 15 percent O_2[3]. c. VOC concentration not to exceed 86 ppmdv corrected to 15 percent O_2	EU02	40 CFR 60.4233(e), Table 1 (Subpart JJJJ)
3	*Visible Emission Standard for Fuel Burning Devices Installed After May 13, 1970* The average opacity from fuel burning devices installed after May 13, 1970 shall not exceed 20 percent for any continuous 6-minute period.[4]	EU01 & EU02	Env-A 2002.02
4	*Activities Exempt from Visible Emission Standards* The average opacity shall be allowed to be in excess of those standards specified in Env-A 2002.02 for one period of 6 continuous minutes in any 60 minute period during startup, shutdown or malfunction.	EU01 & EU02	Env-A 2002.04(c)

[2] The Facility does not have the potential to emit the criteria pollutants NOx, SO_2, CO, PM_{10}, VOCs or Hazardous Air Pollutants (HAPs, as defined in Section 112 of the 1990 Clean Air Act Amendments) at levels greater than the major source thresholds for these pollutants. Therefore, the Facility is a true minor source for NOx, SO_2, CO, PM_{10}, VOCs and HAPs.
[3] Stationary SI ICE greater than 100 hp manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR 1048 may comply with the carbon monoxide (CO) standard for which the engine was certified.
[4] Compliance with visible emission limitations shall be determined using 40 CFR 60, Appendix A, Method 9, upon request by the Division.

Table 3 - Operating and Emission Limitations			
Item #	**Requirement[2]**	**Applicable Emission Unit**	**Regulatory Basis**
5	*Particulate Emission Standards for Fuel Burning Devices Installed on or After January 1, 1985* The particulate matter emissions from fuel burning devices installed on or after January 1, 1985 shall not exceed 0.30 lb/MMBtu.	EU01 & EU02	Env-A 2002.08
6	*Maximum Sulfur Content Allowable in Gaseous Fuels* Gaseous fuel shall contain no more than 15 grains of sulfur per 100 cubic feet of gas at standard temperature and pressure.[5]	EU01 & EU02	Env-A 1605.01
7	*Emergency Generator* Each emergency generator shall only operate: a. As a mechanical or electrical power source when the primary power source for the Facility has been lost during an emergency such as a power outage; or b. During normal maintenance and testing as recommended by the manufacturer.	EU02	Env-A 1211.02(o)
8	*Emergency Generator* a. If the engine is maintained according to the manufacturer's emission-related written instructions, keep records of conducted maintenance to demonstrate compliance or; b. If the engine is not maintained according to the manufacturer's emission-related instructions, demonstrate compliance in accordance with Table 4, Item 3.	EU02	40 CFR 60.4243(b)(1) (Subpart JJJJ)
9	*Emergency Generator* The emergency generator may operate up to 50 hours per year in non-emergency situations[6], but those 50 hours are counted towards the 100 hour limit of operation during any consecutive 12-month period for maintenance checks and readiness testing and total operation shall be limited to 500 hours of operation during any consecutive 12-month period.	EU02	Env-A 1211.01(j)(1) and 40 CFR 60.4243(d) (Subpart JJJJ)

[5] This condition has been streamlined to cover both state and federal air regulations. Compliance the 15 gr/100 scf limit for gaseous fuels will ensure compliance with the 0.060 lb/ SO_2/MMBtu limit found in 40 CFR 60, *Subpart KKKK – Standards of Performance for Stationary Combustion Turbines.*

[6] The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a Facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

V. Monitoring and Testing Requirements

The Owner or Operator is subject to the monitoring and testing requirements as contained in Table 4:

Table 4 - Monitoring and Testing Requirements

Item #	Parameter	Method of Compliance	Frequency	Applicable Unit	Regulatory Basis
1	To Be Determined	When conditions warrant, the Division may require the Owner or Operator to conduct stack testing in accordance with USEPA or other Division approved methods.	Upon request by the Division	Facility Wide	RSA 125-C:6 XI
2	Sulfur Content of Gaseous Fuels	Conduct testing to determine the sulfur content in grains of sulfur per 100 cubic feet of gaseous fuels by: a. conducting testing in accordance with appropriate ASTM test methods, or; b. maintaining a current, valid purchase contract or tariff sheet for the natural gas, specifying that the maximum total sulfur content for the fuel is in compliance with the sulfur content limitation provisions found in Table 3, Item 6.	Once Annually	Facility Wide	40 CFR 60.4360 and 40 CFR 60.4365 (Subpart KKKK) and Env-A 806.03(a)
3	Oxides of Nitrogen (NOx), Carbon Monoxide (CO) and Volatile Organic Compounds (VOC)	If the Emergency Generator *is not* maintained according to the manufacturer's emission-related instructions, the Facility must conduct periodic performance tests in accordance with 40 CFR 60.4244(a) through (f)	Within one year of engine startup and every 8760 hours of operation or 3 years elapsed whichever comes first.	EU02	40 cfr 60.4243 (a)(2)(ii)
4	Oxides of Nitrogen (NOx)	Compliance testing shall be planned and carried out in accordance with the following schedule: a. A pre-test protocol shall be submitted to the Division at least 30 days prior to the commencement of testing; b. The Owner or Operator and any contractor retained by the Owner or Operator to conduct the test shall meet with a Division representative at least 15 days prior to the test date to finalize the details of the testing; and c. A test report shall be submitted to the Division within 60 days after the completion of testing.	Within 60 days from startup of the device for the compressor turbine; within one year from startup of the device for the emergency generator	EU01 & EU02	Env-A 802

Table 4 - Monitoring and Testing Requirements					
Item #	**Parameter**	**Method of Compliance**	**Frequency**	**Applicable Unit**	**Regulatory Basis**
5	Oxides of Nitrogen (NOx)	Conduct periodic performance tests in accordance with 40 CFR 60.4400.	Once per year, no more than 14 months from previous test	EU01	40 CFR 60.4340 (Subpart KKKK)
6	Oxides of Nitrogen (NOx)	If the NO_X emission result from the performance test in Table 4 Item 4, is: a. less than or equal to 75 percent of the NO_X emission limit in Table 3, Item 1, the Facility may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test); b. greater than 75 percent of the NO_X emission limit for the turbine, you must resume annual performance tests.	Annually, unless result is less than or equal to 75 percent of the NOx emission limit; then every two years	EU01	40 CFR 60.4340 (Subpart KKKK)
7	Oxides of Nitrogen (NOx)	The following test methods, or Division approved alternatives, shall be used: a. Method 20, 40 CFR 60 Appendix A to determine NO_x emissions from the Combustion Turbine; b. Methods 1 and 2, 2C, 2F, 2G, or 2H, 40 CFR 60 Appendix A to determine the exit flow rate of stack gases; e. Method 3 or 3A, 40 CFR 60 Appendix A to determine CO_2, O_2, excess air, and molecular weight, and dry basis of stack gases; f. Method 4, 40 CFR 60 Appendix A to determine the volume fraction of water vapor in the stack gases; and g. Method 9, 40 CFR 60 Appendix A to determine opacity in the stack gases.	During compliance testing	EU01	Env-A 802

VI. Recordkeeping Requirements

The Owner or Operator shall be subject to the recordkeeping requirements identified in Table 5:

Table 5 - Recordkeeping Requirements				
Item #	**Requirement**	**Duration/ Frequency**	**Applicable Unit**	**Regulatory Basis**
1	*Record Retention and Availability* Keep the required records on file. These records shall be available for review by the Division upon request.	Retain for a minimum of 5 years	Facility Wide	Env-A 902
2	*General Recordkeeping Requirements for Combustion Devices* Maintain the following records of fuel characteristics and utilization for the fuel used in the combustion devices: a. Type (e.g. natural gas) and amount of fuel burned in each device, or type and amount of fuel burned in multiple devices and hours of operation of each device to be used to apportion fuel use between the multiple devices; b. Hours of operation of each emergency generator.	Monthly	EU01 & EU02	Env-A 903.03
3	*Gaseous Fuel Recordkeeping Requirements* Maintain one of the following: a. Sulfur content as percent sulfur by weight or in grains per 100 cubic feet of fuel; b. Documentation that the fuel source is from a utility pipeline; or c. Documentation that the fuel meets state sulfur limits.	For each delivery of gaseous fuel to the Facility or whenever there is a change in fuel supplier but at least annually	Facility Wide	Env-A 903.03
4	*General NO_x Recordkeeping Requirements* If the actual annual NO_x emissions from the Facility are greater than or equal to 10 tpy, then record the following information: a. Identification of each fuel burning device; b. Operating schedule during the high ozone season (June 1 through August 31) for each fuel burning device identified in Item 4.a., above, including: 1. Typical hours of operation per day; 2. Typical days of operation per calendar month; 3. Number of weeks of operation; 4. Type and amount of each fuel burned; 5. Heat input rate in MMBtu/hr; 6. Actual NOx emissions for the calendar year and a typical high ozone day during that calendar year; and 7. Emission factors and the origin of the emission factors used to calculate the NOx emissions.	Maintain Current Data	EU01 & EU02	Env-A 905.02

VII. Reporting Requirements

The Owner or Operator shall be subject to the reporting requirements identified in Table 6 below. All emissions data submitted to the Division shall be available to the public. Claims of confidentiality for any other information required to be submitted to the Division pursuant to this permit shall be made at the

time of submission in accordance with Env-A 103, *Claims of Confidentiality.*

Table 6 - Reporting Requirements

Item #	Requirement	Frequency	Applicable Emission Unit	Regulatory Basis
1	*Annual Emissions Report* Submit an annual emissions report which shall include the following information: a. Actual calendar year emissions from each emission unit of NO_x, CO, SO_2, TSP, VOCs and HAPs; b. The methods used in calculating such emissions in accordance with Env-A 705.02, *Determination of Actual Emissions for Use in Calculating Emission-Based Fees*; and c. All information recorded in accordance with Table 5, Items 2 and 3.	Annually (no later than April 15th of the following year)	EU01 & EU02	Env-A 907.01
3	*NO_x Emission Statements Reporting Requirements* If the actual annual NO_x emissions for the Facility are greater than or equal to 10 tpy, then include the following information with the annual emission report: a. A breakdown of NO_x emissions reported pursuant to Table 6, Item 1 by month; and b. All data recorded in accordance with Table 5, Item 4.	Annually (no later than April 15th of the following year)	EU01 & EU02	Env-A 909
4	*Permit Deviation Reporting Requirements* Report permit deviations that cause excess emissions in accordance with Condition VIII.B.	Within 24 hours of discovery of excess emission	EU01 & EU02	Env-A 911.04(b)(1)
5	*Emission Based Fees* Pay emission-based fees in accordance with Condition X.	Annually (no later than April 15th of the following year)	EU01 & EU02	Env-A 700

VIII. Permit Deviation Reporting Requirements

A. Env-A 101, *Definitions*:

1. A *permit deviation* is any occurrence that results in an excursion from any emission limitation, operating condition, or work practice standard as specified in either a Title V permit, state permit to operate, temporary permit or general state permit issued by the Division.
2. An *excess emission* is an air emission rate that exceeds any applicable emission limitation.

B. Env-A 911.04(b)(1), *Reporting Requirements*: In the event of a permit deviation that causes excess emissions, notify the Division of the permit deviation and excess emissions by telephone (603-271-1370), fax (603-271-7053) or e-mail (pdeviations@des.state.nh.us), within 24 hours of discovery of the permit deviation, unless it is a Saturday, Sunday, or state or federal legal holiday, in which event, the Division shall be notified on the next day which is not a Saturday, Sunday, or state or federal legal holiday.

IX. Permit Amendments

A. Env-A 612.01, *Administrative Permit Amendments*:

1. An administrative permit amendment includes the following:
   a. Corrects typographical errors;
   b. Requires more frequent monitoring or reporting; or
   c. Allows for a change in ownership or operational control of a source provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Division.
2. The Owner or Operator may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.

B. Env-A 612.03, *Minor Permit Amendments: Temporary Permits and State Permits to Operate*:

1. The Owner or Operator shall submit to the Division a request for a minor permit amendment for any proposed change to any of the conditions contained in this permit which will not result in an increase in the amount of a specific air pollutant currently emitted by the emission units listed in Condition II and will not result in the emission of any air pollutant not emitted by the emission unit.
2. The request for a minor permit amendment shall be in the form of a letter to the Division and shall include the following:
   a. A description of the proposed change; and
   b. A description of any new applicable requirements that will apply if the change occurs.
3. The Owner or Operator may implement the proposed change immediately upon filing a request for the minor permit amendment.

C. Env-A 612.04, *Significant Permit Amendments: Temporary Permits and State Permits to Operate*:

1. The Owner or Operator shall submit a written request for a permit amendment to the Division at least 90 days prior to the implementation of any proposed change to the physical structure or operation of the emission units covered by this permit which increases the amount of a specific air pollutant currently emitted by such emission unit or which results in the emission of any regulated air pollutant currently not emitted by such emission unit.
2. A request for a significant permit amendment shall include the following:
   a. A complete application form, as described in Env-A 1703 through Env-A 1708, as applicable;
   b. A description of:
      i. The proposed change;
      ii. The emissions resulting from the change; and
      iii. Any new applicable requirements that will apply if the change occurs; and
      iv. Where air pollution dispersion modeling is required for a device pursuant to Env-A 606.02, the information required pursuant to Env-A 606.03.
3. The Owner or Operator shall not implement the proposed change until the Division issues the amended permit.

X. Emission-Based Fee Requirements

A. Env-A 705.01, *Emission-based Fees*: The Owner or Operator shall pay to the Division each year an emission-based fee for emissions from the emission units listed in Condition II.

B. Env-A 705.02, *Determination of Actual Emissions for use in Calculating of Emission-based Fees*: The Owner or Operator shall determine the total actual annual emissions from the emission units listed in Condition II for each calendar year in accordance with the methods specified in Env-A 616, *Determination of Actual Emissions*. If the emissions are determined to be less than one ton, the emission-based fee shall be calculated using an emission-based multiplier of one ton.

C. Env-A 705.03, *Calculation of Emission-based Fees*: The Owner or Operator shall calculate the annual emission-based fee for each calendar year in accordance with the procedures specified in Env-A 705.03 and the following equation:

$$FEE = E * DPT$$

where:

FEE = The annual emission-based fee for each calendar year as specified in Env-A 705;
E = Total actual emissions as determined pursuant to Condition X.B; and
DPT = The dollar per ton fee the Division has specified in Env-A 705.03(e).

D. Env-A 705.04, *Payment of Emission-based Fee*: The Owner or Operator shall submit, to the Division, payment of the emission-based fee by April 15th for emissions during the previous calendar year. For example, the fees for calendar year 2007 shall be submitted on or before April 15, 2008.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
AIR RESOURCES DIVISION
CONCORD, NEW HAMPSHIRE

NOTICE OF PERMIT REVIEW PUBLIC HEARING AND COMMENT PERIOD

Pursuant to the New Hampshire Code of Administrative Rules, Env-A 621.02, notice is hereby given that the Director of the New Hampshire Department of Environmental Services, Air Resources Division (Director), has received an application for a temporary permit from, and based on the information received to date, intends to **issue such permit to:**

Tennessee Gas Pipeline Company
1001 Louisiana Street
Houston, Texas 77002

For the Following Device(s):

Compressor Turbine and Emergency Generator
Mammoth Road
Pelham, New Hampshire

The application and draft permit are on file with the Director, New Hampshire Department of Environmental Services, Air Resources Division, 29 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095, (603) 271-1370. Information may be reviewed at the office during working hours from 8 a.m. to 4 p.m., Monday through Friday. Additional information may also be obtained by contacting Muriel Lajoie at the above address and phone number. Requests for a public hearing and/or written comments filed with the Director in accordance with Env-A 621.06, and received no later than **Monday, August 11, 2008,** shall be considered by the Director in making a final decision.

Robert R. Scott
Director
Air Resources Division